WHAT IS CLAIMED IS:

1. An isolated polypeptide comprising an amino acid sequence of a N-terminal choline binding protein A truncate.

2. The isolated polypeptide of claim 1, wherein the amino acid sequence is set forth in SEQ ID NO 1, including fragments, mutants, variants, analogs, or derivatives, thereof.

3. The isolated polypeptide of claim 1, wherein the amino acid sequence is set forth in SEQ ID NO 3, including fragments, mutants, variants, analogs, or derivatives, thereof.

4. The isolated polypeptide of claim 1, wherein the amino acid sequence is set forth in SEQ ID NO 6.

5. The isolated polypeptide of claim 1, wherein the amino acid sequence is set forth in SEQ ID NO 7, including fragments, mutants, variants, analogs, or derivatives, thereof.

6. The isolated polypeptide of claim 1, wherein the amino acid sequence is set forth in SEQ ID NO 9, including fragments, mutants, variants, analogs, or derivatives, thereof.

7. An isolated polypeptide comprising an amino acid sequence of a N-terminal choline binding protein A truncate having the amino acid as set forth in SEQ ID NO 24, wherein the polypeptide exhibits its tertiary structure.

8. The isolated polypeptide of claim 7, wherein the tertiary structure corresponds to that present in the native protein.

9. The isolated polypeptide of claim 7, wherein the polypeptide is made by cleaving a full length choline binding protein A with hydroxylamine, wherein the hydroxylamine cleaves the choline binding protein A at amino acid 475 thereby creating the N-terminal choline binding protein A truncate.

10. An isolated analog of the polypeptide of claim 1.

11. An isolated polypeptide according to claim 10, wherein the analog comprises the amino acid sequence having an N-terminal methionine or an N-terminal polyhistidine.

12. The isolated polypeptide according to claim 1, wherein said fragments are proteolytic digestion products of the polypeptide.

13. An isolated polypeptide comprising an amino acid sequence of a N-terminal choline binding protein A truncate, wherein the polypeptide has lectin activity and does not bind to choline.

14. An isolated immunogenic polypeptide comprising an amino acid sequence of a N-terminal choline binding protein A truncate.

15. The immunogenic polypeptide of claim 14, wherein the amino acid sequence is set forth in SEQ ID NO 1, including fragments, mutants, variants, analogs, or derivatives, thereof.

16. The immunogenic polypeptide of claim 14, wherein the amino acid sequence is set forth in SEQ ID NO 3, including fragments, mutants, variants, analogs, or derivatives, thereof.

17. The immunogenic polypeptide of claim 14, wherein the amino acid sequence is set forth in SEQ ID NO 7, including fragments, mutants, variants, analogs, or derivatives, thereof.

18. The immunogenic polypeptide of claim 14, wherein the amino acid sequence is set forth in SEQ ID NO 9, including fragments, mutants, variants, analogs, or derivatives, thereof.

19. An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence of a N-terminal choline binding protein A truncate.

20. The isolated nucleic acid of claim 19, wherein the nucleic acid is set forth in SEQ ID NO 12, including fragments, mutants, variants, analogs, or derivatives, thereof.

21. The isolated nucleic acid of claim 19, wherein the nucleic acid is set forth in SEQ ID NO 14, including fragments, mutants, variants, analogs, or derivatives, thereof.

22. The isolated nucleic acid of claim 19, wherein the nucleic acid is set forth in SEQ ID NO 17, including fragments, mutants, variants, analogs, or derivatives, thereof.

23. The isolated nucleic acid of claim 19, wherein the nucleic acid is set forth in SEQ ID NO 19, including fragments, mutants, variants, analogs, or derivatives, thereof.

24. The isolated nucleic acid of claim 19, wherein the nucleic acid is DNA.

25. The isolated nucleic acid of claim 19, wherein the nucleic acid is cDNA.

26. The isolated nucleic acid of claim 19, wherein the nucleic acid is genomic DNA.

27. The isolated nucleic acid of claim 19, wherein the nucleic acid is RNA.

28. An isolated nucleic acid of claim 19 operatively linked to a promoter of RNA transcription.

29. A vector which comprises the nucleic acid molecule of claim 19.

30. The vector of claim 29, wherein the promoter comprises a bacterial, yeast, insect or mammalian promoter.

31. The vector of claim 30, wherein the vector is a plasmid, cosmid, yeast artificial chromosome (YAC), bacteriophage or eukaryotic viral DNA.

32. A host vector system for the production of a polypeptide which comprises the vector of claim 30 in a suitable host cell.

33. The host vector system of claim 32, wherein the suitable host cell comprises a prokaryotic or eukaryotic cell.

34. A cell line comprising the nucleic acid of claim 19.

35. A method of obtaining a polypeptide in purified form which comprises:
   (a) introducing the vector of claim 19 into a suitable host cell;
   (b) culturing the resulting host cell so as to produce the polypeptide;
   (c) recovering the polypeptide produced in step (b); and
   (d) purifying the polypeptide so recovered in step (c).

36. An antibody capable of specifically binding to the polypeptide of claim 1 or 7.

37. The antibody of claim 36, wherein the antibody is a monoclonal antibody.

38. The antibody of claim 36, wherein the antibody is a polyclonal antibody.

39. A pharmaceutical composition comprising an amount of the polypeptide of claim 1 and a pharmaceutically acceptable carrier or diluent.

40. A vaccine comprising the vector of claim 29 and a pharmaceutically acceptable adjuvant or carrier.

41. A method of inducing an immune response in a subject which has been exposed to or infected with a pneumococcal bacterium comprising administering to the subject an amount of the pharmaceutical composition of claim 40, thereby inducing an immune response.

42. A method for preventing infection by a pneumococcal bacterium in a subject comprising administering to the subject an amount of the pharmaceutical composition of claim 39 effective to prevent pneumococcal bacterium attachment, thereby preventing infection by a pneumococcal bacterium.

43. The method of claim 42, wherein the pharmaceutical composition is delivered to the respiratory tract or nasopharynx.

44. A method for preventing infection by a pneumococcal bacterium in a subject comprising administering to the subject an amount of a pharmaceutical composition comprising the antibody of claim 36 and a pharmaceutically acceptable carrier or diluent, thereby preventing infection by a pneumococcal bacterium.

45. A method for treating a subject infected with or exposed to pneumococcal bacterium comprising administering to the subject a therapeutically effective amount of the vaccine of claim 40, thereby treating the subject.

Add D2

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